

## Servo-hydraulic Universal Testing Machine | HUT Type A

### Load Frame Configuration:

4 or 6 column, servo-controlled hydraulic

### Capacity:

200kN, 300kN, 500kN, 600kN, 1000kN,  
2000kN

### Test Space:

Dual zone (tension on top, compression on bottom)

### Typical specimens:

Fasteners, rebar, chain, welds, castings

### Frame

1. Lead screw driven crosshead to adjust the test space
2. High-Stiffness 6-column load frame design incorporates 3-position crosshead, adjustable specimen positioning, precision guide columns, thick crosshead and base beam minimizes load frame stored energy while producing reliable, stable, accurate load, strain and modulus values.
3. Ergonomically designed load frames ensure safety, reduce operator fatigue, and provide the highest level of flexibility.
4. Standard Dual Zone Test Space for reducing setup time
5. "Quick Return" hydraulic valve for higher throughput
6. Automatic limit checking for crosshead position, overload, over temperature, over voltage, etc.
7. The system can return automatically, the oil cylinder can return the original position via manual or automatically after finishing testing
8. Positive specimen holding is ensured by the wedge action of hydraulic operated grips
9. Imported encoder mounted on the seat is for position measurement of crosshead with high accuracy
10. Imported servo valve provides high stability and reliability



### Load cell

1. Use strain gauge load cell technology to measure the force being applied to specimen. The load cell is located in the lower grip and is used to directly measure tensile force.
2. High precise load cell measures and captures sensitively tension and compression force, high accuracy load measurement resolution reaches 1/500000 with no steps.
3. Famous brand load cell ensures high precision and repeatability.

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**Various frames to satisfy your test needs from low force to high force**



## Full complement of test accessories

Extensive range of accessories to meet test requirements in almost any application or industry: rebar, fasteners, chain, welds, castings, concrete and other building materials

- Tension grip
- Compression fixture
- Flexure fixture
- Rock shear fixture
- Concrete split fixture
- Fastener tension grip
- Extensometer
- Automatic extensometer
- others



## Powerful test software - TestPilot

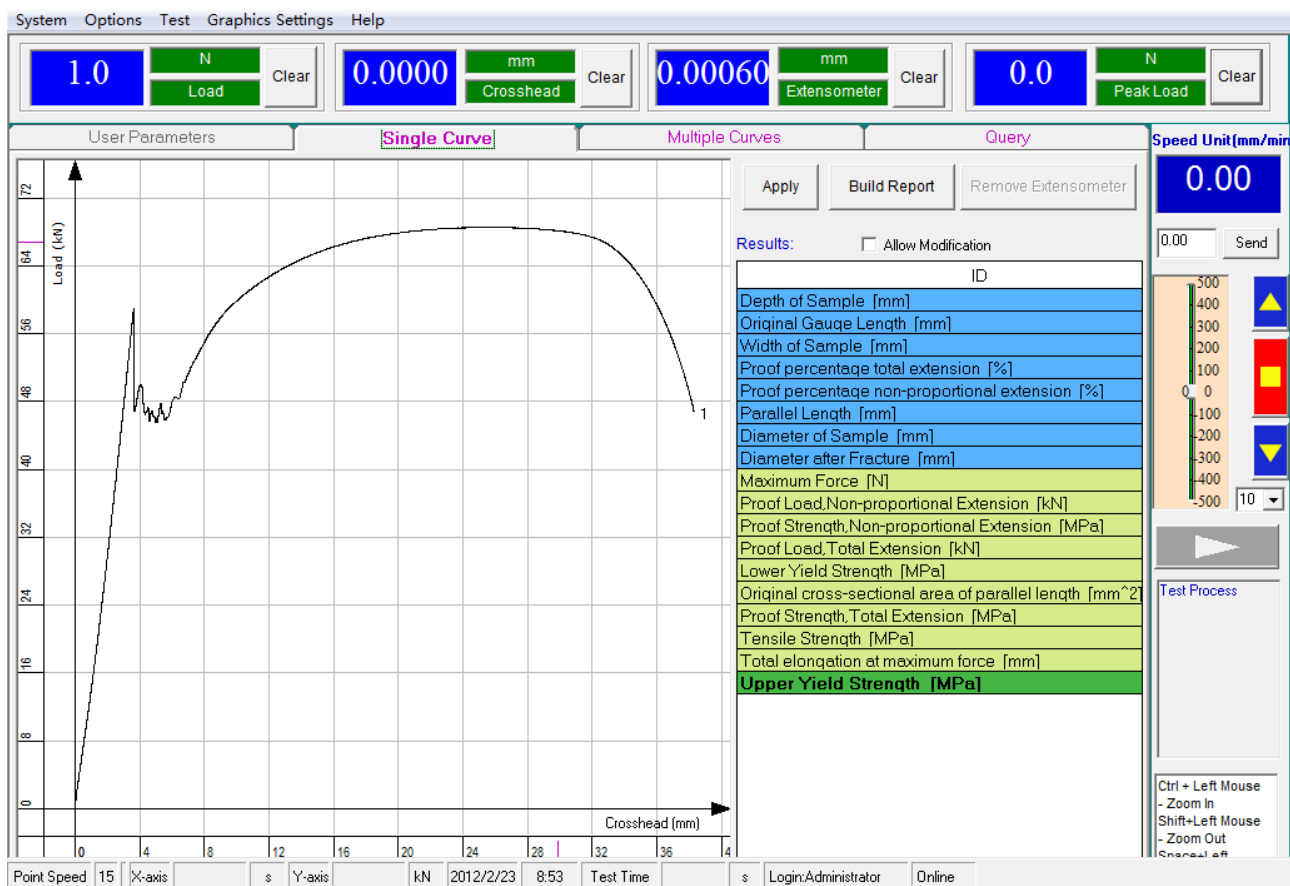
**-Two steps to start testing: select a project, press start**

This software features a large, growing host of pre-packaged test methods to help you quickly and efficiently meet the requirements of global test standards such as ASTM, ISO, DIN, EN, BS, and more. Selected by an operator at runtime, these methods are crafted to meet the specific test flow, analysis and reporting requirements of industry

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standards across a range of specimen and test types. Pre-packaged test methods are available in a wide selection of bundled sets, including: Polymers & Plastics, Metals, Construction Materials, Biomedical Products, Paper Products, Adhesives, foam, textiles and more.

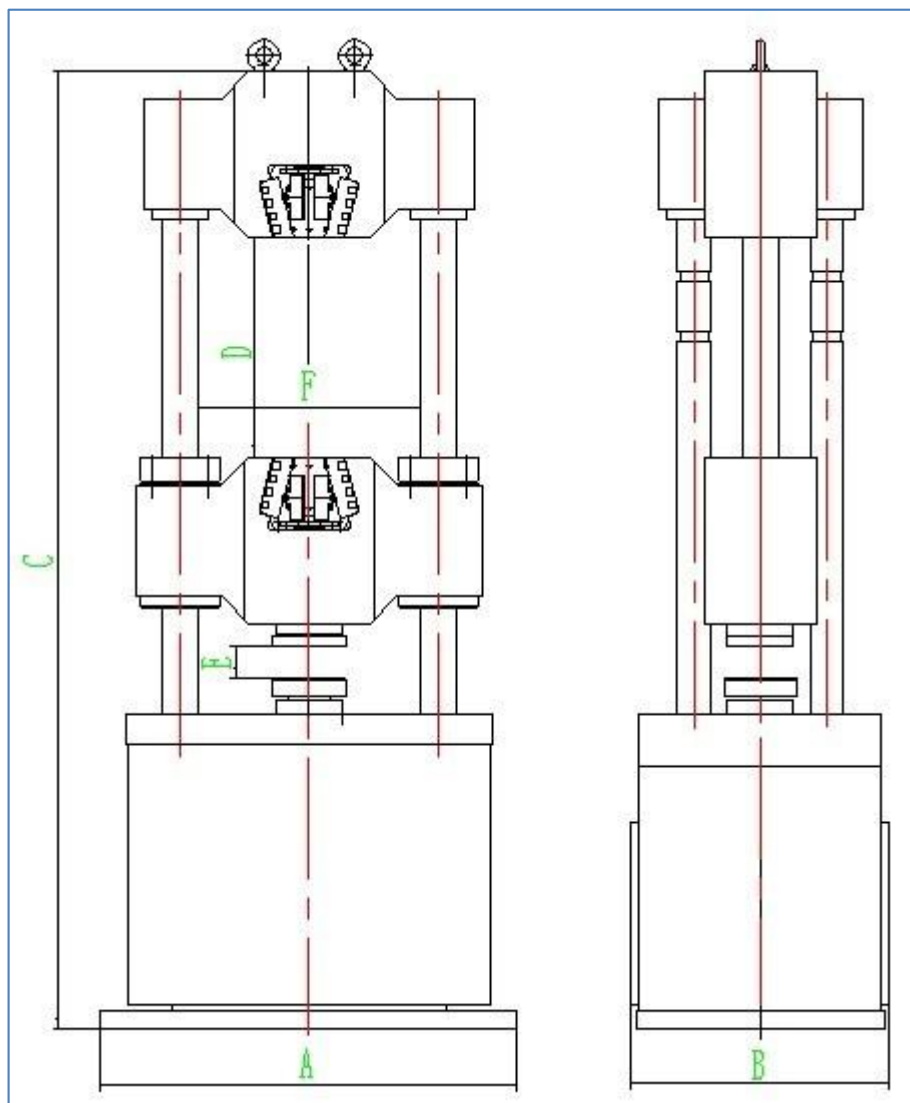
- Versatile, easy-to-use TestPilot software with a large and growing library of standards-compliant test methods (ASTM, ISO, DIN, EN, BS, and more)
- Modular design permits easy upgrading
- Plenty of test standards are built in the library of the software for routine tests.
- User configured report: user can preset report template and include necessary information, like company information, statistics, and etc. Test report can export to Excel or Word.
- Powerful graphic function: real time display curves, like displacement-load, stress-strain, displacement-time, load-times, and others
- Powerful analysis function can calculate typical value and display on the curve, like Fm, ReL, ReH, Rp.
- Measurement unit: Users can select SI, or others, like N, kN, Kgf, lbf, Mpa, and so on, user can define the unit by themselves using formula.



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## Frame dimensions

Model	Outside dimension A×B×C (mm)	Tensile space D (mm)	Compression space E (mm)	Test width F (mm)	Piston travel (mm)
HUT305A	820×570×1955	520	520	410	150
HUT605A	940×650×2400	710	700	435	250
HUT106A	1020×670×2600	750	660	450	250
HUT206A	1370×820×3300	900	750	730	250



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## Specifications:

Model	HUT205 HUT305	HUT505 HUT605	HUT106	HUT206
Type	Type A			
Capacity (kN)	200 300	500 600	1000	2000
Calibration accuracy	Class 1 / Class 0.5			
Force accuracy	Better than $\pm 1\% / \pm 0.5\%$			
Force range	1% ~ 100%FS			
Resolution	1/500000FS			
Extension range	1% ~ 100%FS			
Extension accuracy	Better than $\pm 1\% / \pm 0.5\%$			
Extension resolution	1/500000 of max extension			
Actuator (piston) stroke (mm)	150	250	250	250
Actuator (piston) speed (mm/min)	0 ~ 180	0 ~ 140	0 ~ 90	0 ~ 70
Middle crosshead speed (mm/min) Only for test space adjustment	0 ~ 350	0 ~ 270	0 ~ 310	0 ~ 360
Force loading speed	0.02% ~ 2% FS /s			
Column number	4	6	6	6
Column spacing (test space width) (mm)	410	435	450	730
Maximum tension space (mm)	520	710	750	900
Maximum compression space (mm)	520	700	660	750
Diameter of round specimens (mm)	$\Phi 10 \sim \Phi 20$ $\Phi 20 \sim \Phi 32$	$\Phi 10 \sim \Phi 18$ $\Phi 18 \sim \Phi 29$ $\Phi 29 \sim \Phi 40$	$\Phi 15 \sim \Phi 30$ $\Phi 30 \sim \Phi 45$ $\Phi 45 \sim \Phi 55$	$\Phi 15 \sim \Phi 70$
Thickness of flat specimens (mm)	2 ~ 13 13 ~ 25	2 ~ 16 16 ~ 30	2 ~ 20 20 ~ 40	2 ~ 70
Compression platens (mm)	$\Phi 120$	$\Phi 150$	200x200	$\Phi 240$
Frame dimension (length × width × height) (mm)	820x570x1955	940x650x2400	1020x670x2600	1370x820x3150
Hydraulic Power Unit dimension (length × width × height) (mm)	1150x600x900			
Hydraulic Power Unit weight (kg)	300			
HPU flow rate ( L/min)	3.5	5	5	7.2
Power consumption (kw)	2.5	3.5	4	6
Power supply	3-phase, 5-line, AC380V, 50Hz			
Frame weight (kg)	1500	2500	3500	6800
Main cylinder hoses length	2.4m x 1	2.4m x 1	2.6m x 1	2.6m x 1
Upper grip hoses length	3.6m x 2	4.0m x 2	4.2m x 2	4.6m x 2
Lower grip hoses length	3.1m x 2	3.35m x 2	3.35m x 2	3.9m x 2

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## Standard configurations:

Name		Description	Quantity
Main machine	Load frame	Dual space, class 1	1 set
	Load cell	built-in the load frame	1 set
	Displacement encoder		1 set
	Motor and speed reducer		1 set
HPU	Oil tank		1 set
	Pump		1 set
	Servo Valve		1 set
	Valve manifold		1 set
	Cooling fan		1 set
	High pressure oil hoses		4 sets
Grips & Fixtures	Compression fixture		1 pair
	Hydraulic wedge action tensile grip		1 pair
Controller		Model: DTC-500	1 set
Software		Testpilot, English version	1 set
Accessories	Maintenance tools	inner hexagon spanner 1 set Phillips screwdriver 1 set Open spanner 1 set	1 set
	Operation & Maintenance manual		1 set
	Software manual		1 set
	Warranty card		1 set
	Quality Certificate		1 set

## Prepared by customer:

- The anti-wear hydraulic oil (N46, 75L) shall be purchased by customer at local market.
- The foundation work must be finished before UTM delivered 14 days.
- Computer and printer should be prepared by customer

## Shipping information

Model	Crated dimension (mm)	Crated weight (kg)
HUT205/HUT305	2230X1000X940	1500
HUT505/HUT605	2610X1110X1040	2800
HUT106	2900X1240X1130	3700
HUT206	3520X1540X1400	7500
HPU (hydraulic power unit)	1430X850X1180	380



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